Scoliosis

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Painful adult scoliosis with kyphosant evolution and sagittal anterior trunk imbalance treated with physical therapy techniques: three case reports

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from 6th International Conference on Conservative Management of Spinal Deformities
Lyon, France. 21-23 May 2009

Published: 14 December 2009

Scoliosis 2009, **4**(Suppl 2):O65 doi:10.1186/1748-7161-4-S2-O65

This abstract is available from: http://www.scoliosisjournal.com/content/4/S2/O65

Purpose of the study

The objective of this study is to show positive clinical changes after physical therapy in three patients diagnosed with painful adult scoliosis with kyphotic evolution.

Background

Painful adult scoliosis presenting kyphotic evolution combined with an anterior imbalance of the trunk is one of the most difficult clinical conditions in rehabilitation. Clinical changes during rehabilitation treatment (physical therapy) can be measured by using surface topography, although postural changes can produce measurement fluctuations, and interpretations should be made cautiously. This type of patient presents with considerable stiffness of the spine, and their kyphotic deformity used to be irreducible.

Methods

Three case reports.

Patient 1

74 year old female at her first consultation. The patient had severe painful scoliosis (associated degenerative and osteoporosis changes), with a right thoracolumbar curve of 67° and a kyphosis measurement of 69° between T10 and L3. The treatment and observation period was 23 months.

Patient 2

50 year old female at her first consultation. The patient had adult painful scoliosis, with a right lumbar curve measuring 66° with > 50° axial rotation, rotatory listhesis at T11-T12 and L3-4-5, degenerative changes, and lumbar kyphosis. The treatment and observation period was 4 months.

Patient 3

50 year old female at her first consultation. The patient had junctional kyphosis caudal and cranial to Harrington instrumentation (T5-T12), a lumbar scoliosis curve measuring 55°, hyper-rotated, rotatory listhesis at L3-4, and degenerative changes. The treatment and observation period was 7 months.

Results

Patient 1

Improved to no pain. Lateral deviation and rotation decreased from 34 mm and 16° to 26 mm and 12°. Frontal plane imbalance (T1-CSL) decreased from 27 mm to 12 mm. The patient experienced significant correction of the anterior trunk imbalance and reduction of the kyphotic angle VP-ITL from 66° to 58°.

Patient 2

Improved to no pain. Lateral deviation and rotation decreased from 30 mm and 16° to 19 mm and 10°. Frontal plane imbalance decreased from 46 mm to 21 mm (T1-

CSL). The patient experienced significant correction of the lumbar kyphosis and the anterior trunk imbalance.

Patient 3

Improved to no pain. Lateral deviation and rotation decreased from 27 mm and 15.5° to 22.3 mm and 14°. Kyphotic angle VP-ITL decreased from 65° to 56° with a highly noticeable correction of the junctional kyphosis.

Conclusion

Painful adult scoliosis with kyphotic evolution and sagittal anterior trunk imbalance can be managed using physical therapy techniques.